

ENERGY DEREGULATION

The State's Energy Balance Remains Uncertain but Could Improve With Changes to Its Energy Programs and Generation and Transmission Siting

REPORT NUMBER 2000-134.2, MAY 2001

California Public Utilities Commission's response as of June 2002
California Energy Resources Conservation and Development Commission's response as of August 2002

Audit Highlights . . .

Despite programs to add supply and reduce demand, the State's energy balance remains uncertain:

- Even with projections to the contrary, there is little assurance that the State will meet energy supply needs this summer.*
- The State Energy Resources Conservation and Development Commission's (energy commission) AB 970 demand reduction programs are estimated to save 281 megawatts at June 1 2001, however, over one-half of this savings is expected to come from programs that are voluntary in nature.*
- Since 1996 the energy commission has approved 12 power plants, but only 4 were approved within 12 months, its statutory goal.*
- Despite adding three new processes to hasten power plant siting, only one will add a significant amount of energy to the State's supply in time for summer 2001.*

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The Joint Legislative Audit Committee requested that we assess the structure, operations, and overall functionality of the California Power Exchange (PX) and the California Independent System Operator (ISO) and if these contributed to the rising cost of wholesale electricity in California. In March 2001 we issued report number 2000-134.1 on the PX and ISO titled, *Energy Deregulation: The Benefits of Competition Were Undermined by Structural Flaws in the Market, Unsuccessful Oversight, and Uncontrollable Competitive Forces*. However, while working on that report, we realized the integral roles played by the California Energy Resources Conservation and Development Commission (energy commission) and the California Public Utilities Commission (CPUC) in California's deregulated energy market. Thus, we issued this second report on energy deregulation, focusing on the energy commission's and the CPUC's responsibilities in the State's energy market.

Finding #1: The ISO and energy commission's projections of the State's likely balance between electricity supply and demand for summer 2001 are based on assumptions about power outages, customers actions, and other factors that may not come true.

Despite projections to the contrary, there is little assurance that the State will meet its energy supply needs during the summer of 2001. Responding to the increased public awareness of California's energy crisis, the ISO and energy commission released projections of the balance between electricity supply and demand. These projections, however, are based on assumptions about power plants not operating, customer actions, and

☑ *The California Public Utilities Commission (CPUC) does not have an expedited transmission siting process for urgent projects.*

☑ *Although the CPUC relies on them for approving transmission projects, the investor-owned utilities' projections of transmission demand growth may not be reliable.*

Finally, because of the State's role in purchasing electricity for the investor-owned utilities, it remains unclear whether retail competition is consistent with the State's goal of returning the utilities to a creditworthy status.

several other factors that may not prove true. Furthermore, the projections do not consider transmission limitations between certain parts of the State or expand the prediction to include more than one possible outcome.

We recommended that the energy commission consult with the ISO and develop an annual projection of summer supply capacity compared to peak demand that acknowledges the full range of constraints within the State's electricity system, including transmission constraints. As part of this projection, the energy commission should provide the Legislature with a range of possible supply and demand outcomes that reflect the underlying assumptions' likelihood of proving true.

Energy Commission Action: Corrective action taken.

Over the past year, the energy commission stated that it had worked with the ISO to develop three electricity supply and demand assessment reports published between fall 2001 and spring 2002. The energy commission commented that it has had difficulty working out satisfactory arrangements for receiving key confidential ISO data. However, through the use of a subpoena, it did obtain some specific information to assess generator facility outages occurring during the summer of 2002. Furthermore, the energy commission cited additional analyses it performed for the Legislature assessing potential scenario ranges in energy demand, generation construction, and temperature variation and analyzed additional risks through a probability assessment. It appears that Senate Bill 1389 (Chapter 568, Statutes of 2002) requires the commission to report on issues as we recommended on a biennial basis.

Finding #2: The energy commission's Peak Load Reduction Program may miss its estimate of electricity to be saved by June 2001.

The energy commission estimated that by June 1, 2001, its Peak Load Reduction Program would provide 281 megawatts (MW) of peak demand reduction. However, the energy commission may be overly optimistic in its estimate. This is because more than half of its estimated 281 MW savings are projected to come during periods of high demand from the voluntary curbing of electricity use in commercial and state government buildings located throughout California. However, actual energy savings

will depend on the operators' responses to potentially frequent requests to reduce electricity use, thus the actual megawatt savings this program will provide are uncertain.

Also, the energy commission's efforts to monitor its water-systems equipment program, which subsidizes the replacement of inefficient water pumps and equipment with more efficient ones, may not be sufficient to ensure that the project schedule will actually be completed by June 1, 2001, in time to provide the planned peak demand reduction for June, which represents 17 percent of its estimated peak energy savings.

We recommended that the energy commission eliminate the override function from the commercial building program guidelines and contract language so that building managers more readily comply with directives to reduce lighting and air conditioning levels as agreed. We also recommended that as a condition of program participation, the energy commission should require commercial building program participants to meet specified compliance levels for a certain period of time, such as 24 months. If the compliance levels are not met, the participants should be penalized.

Finally, we recommended that the energy commission develop a plan to actively evaluate itself and program participants in all components of the Peak Load Reduction Program against set milestones such as:

- Securing a certain number of participants by milestone dates.
- Verifying that equipment is ordered and delivered by scheduled due dates.
- Projects are installed, completed, and tested according to scheduled dates.

Energy Commission Action: Partial corrective action taken.

In its responses to these recommendations, the energy commission reported that the utilities will and the ISO may assess penalties if building operators do not provide contracted load relief and that this was as much assurance of performance as they could achieve independently. The energy commission told us that it is actively evaluating the peakload reduction program. In addition, its managers are monitoring each contract relative to its milestones. The energy commission reports that it is conducting site visits

where possible and has contracted with an outside evaluator to provide monitoring and program impact verification. It also stated that the evaluator's first report was submitted in January 2002 and others are to be provided on a quarterly basis, but did not state the results of these reports.

Finding #3: The CPUC's energy efficiency programs may not achieve planned peak energy savings and cost much more than larger commercial and industrial peak energy savings programs.

Through its self-generation program, the CPUC subsidizes electricity customers' purchases and installation of solar panels, fuel cells, and nondiesel internal combustion engines, to allow these customers to generate their own electricity rather than drawing energy from the transmission grid. However, the CPUC allows customers their choice of the type of self-generating technology they wish to install rather than focusing on maximizing the reduction in peak demand. As a result, customers' technology choices will greatly affect the megawatt savings the CPUC will achieve.

Additionally, the CPUC's new demand control efforts, which include a plan to adjust thermostats during times of peak electricity use, may fall short of its estimated megawatt savings goal of 8 MW in 2002. Under this plan, participants will have the ability to override the signal to adjust their thermostats, partially or wholly negating any energy savings.

In addition, the Web site the CPUC directed PG&E to develop calls for PG&E to duplicate information already residing on the respective Web sites of PG&E, private entities, and public entities. Thus, we believe the \$3 million annual cost for the Web site is a poor use of ratepayer funds.

Finally, the self-generation and demand control programs will cost the ratepayers of the three investor-owned utilities \$551.5 million, nearly six times more costly on a per megawatt saved basis than the energy commission's Peak Load Reduction Program. Even though AB 970 requires the CPUC to address small energy customers, it does not preclude the CPUC from including larger industrial and commercial customers in its demand reduction programs. Therefore, we questioned whether the CPUC should continue to commit utility ratepayers' funds

only to residential and small commercial programs when funds collected from and applied to larger ratepayers could achieve greater peak energy savings.

We recommended that the CPUC:

- Amend the new residential and small commercial pilot programs to remove the override option from the program and to require participants to reduce peak demand as and when directed.
- Remove the Web site from its portfolio of demand control programs.
- Increase its vigilance in its oversight of the investor-owned utilities' administration of energy efficiency programs.
- Give priority to conservation measures for those types of customers who will produce the most energy savings.

CPUC Action: Partial corrective action taken.

In its one-year audit response, the CPUC stated that to address concerns about utility administration, it established a new framework for proposals for new energy efficiency programs beginning in calendar year 2002. The CPUC described the framework as providing an opportunity for entities other than the utilities to develop and implement innovative new energy efficiency programs. Moreover, the CPUC believes that its new *Energy Efficiency Policy Manual*, adopted in November 2001, will help prioritize funding for programs with the highest energy savings through a uniform method for measuring the cost-effectiveness of various alternative programs and quantifying long-term energy savings. However, the CPUC provided no response covering their efforts to implement our other recommendations. These recommendations remain valid because:

- Under the demand control pilot program participants can override the signal to adjust their thermostats, thereby diminishing the peak demand savings the CPUC hopes to achieve.
- The Web site CPUC directed PG&E to develop was duplicative of existing sites. Thus, the \$3 million annual cost to maintain the Web site is a poor use of ratepayer funds.

Finding #4: The potential for wide swings in electricity supply may require that the State augment its role in energy planning.

After the State deregulated the electricity industry, the energy commission no longer played a role in restraining the State's level of electricity supply. Instead, the State relied on the competitive market to encourage the construction of sufficient power plants to ensure an adequate supply of power. However, relying on the marketplace to determine when to increase supply may not be in the State's best interests. Because power plants take a significant amount of time to site and construct, the industry may not be able to respond quickly enough to market signals to ensure that the State is not exposed to a boom-bust cycle. To avoid these large fluctuations in electricity supply, it may be valuable for the State to augment its planning role, ensuring that California never reaches extreme levels of oversupply or undersupply.

We recommended that the Legislature and energy commission consider augmenting the energy commission's role in electricity planning to help ensure the State avoids large swings in the supply of electricity relative to demand. For example, expanding the energy commission's existing planning role to include integrating supply and demand projections and to use them as a basis for making decisions on whether to site new power plants.

Energy Commission Action: Corrective action taken.

The energy commission reported that it published its assessment of the projected supply and demand for electricity, natural gas, and related issues over the 10-year period 2002 through 2012, in May 2002. The energy commission reported that it has briefed the California Power Authority on its report and is participating in a proceeding with them to develop a target reserve margin. In addition, the energy commission noted that Senate Bill 1389 (Chapter 568, Statutes of 2002) will consolidate and enhance its data collection, forecasting, and reporting responsibilities by requiring the energy commission in consultation with certain state and federal agencies to prepare a biennial Integrated Energy Policy Report. The energy commission believes that the assessments and forecasts included in these reports will help it develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

Finding #5: The energy commission has made changes to improve its siting process but is not evaluating the effectiveness of those changes.

In response to a legislative mandate, in March 2000, the energy commission issued a report on improvements that it could make to its siting process. As of April 1, 2001, the energy commission stated that it had implemented over half of the changes it identified. However, the energy commission has not developed methods to judge the effectiveness of its changes. For example, to prevent delays, the energy commission changed its regulations to specify that outside parties could only request information on applications within 180 days of the date the application is complete. However, the energy commission has not attempted to measure whether this new procedure has actually prevented the delays it previously identified. Thus, the energy commission cannot guarantee that this change and others it has made have actually improved the generation siting process as intended.

We recommended that the energy commission establish an evaluation plan to assess the impact of recent changes to its process for siting power plants.

Energy Commission Action: Corrective action taken.

The energy commission reported that it had developed a power plant permitting database to record key events and other data relating to the power plants being reviewed or permitted. The energy commission stated it has the ability to query the database to determine if there are any measurable improvements attributable to changes it has made to the permitting process. In addition, the energy commission stated it intended to hold post-certification debriefings with stakeholders to gather qualitative information on the outcomes of the permitting process.

Finding #6: Having utilities responsible for transmission planning may hinder the development of new transmission lines.

The investor-owned utilities are primarily responsible for transmission planning, determining through their own separate analyses of demand growth what new transmission lines are needed and where. The ISO and CPUC coordinate, plan, and oversee the expansion of the State's transmission grid. Because the three investor-owned utilities create three individual transmission

expansion plans, based on potentially varying assumptions of the future demand growth in their respective service areas, the ISO's ability to create a comprehensive statewide expansion plan may be hindered. Also, the investor-owned utilities may have incentives that conflict with their responsibility to expand the grid where necessary. Therefore, the investor-owned utilities' demand analyses may not be the best basis for determining when and where transmission lines are needed. In relying on these analyses to determine transmission line expansion, rather than on analyses prepared independently, the ISO and CPUC lack assurance that the utilities' proposed transmission projects are optimizing the transmission grid.

We recommended that the energy commission make regional demand growth projections for the ISO and CPUC to use in their transmission planning and siting processes so that the State has an independent projection of demand growth on which to base transmission expansions.

Energy Commission Action: Corrective action taken.

The energy commission reported that its electricity demand analysis and projections are available to and can be used by the CPUC and the ISO. In addition, the energy commission stated that it works with many out-of-state electricity planning entities and utilities to establish a common understanding of the Western Systems Coordinating Council's regional developments.

Finding #7: The CPUC's transmission siting process is not responsive to the current energy crisis.

Although it is responsible for siting the electrical transmission lines that the investor-owned utilities propose, the CPUC does not have an expedited transmission siting process that could better assist California's recovery from the energy crisis. Moreover, in almost half of the CPUC's siting cases using the environmental review process outlined in the California Environmental Quality Act (CEQA), the CPUC significantly exceeded the 180- and 365-day goals CEQA sets for completing environmental reviews. A lack of adequate transmission capacity in some areas of the State can be devastating—transmission constraints have already caused rolling blackouts and have the potential to do so again in the near future. Also, long delays in siting added transmission could slow the State's recovery from the current energy crisis.

We recommended that the Legislature:

- Create an expedited electricity transmission siting process for projects that are needed for short-term transmission system reliability.
- Institute a coordinated electricity transmission siting process as it relates to other agencies similar to the coordinated power plant siting process used at the energy commission.

Legislative Action: Unknown.

We are not aware of any legislative action concerning this recommendation.

Finding #8: The future of consumer choice is unclear.

In California's deregulated electricity industry, energy customers can choose to stay with the investor-owned utilities or purchase their electricity from another provider. The CPUC and the Legislature had high expectations that consumer choice would increase competition and lead to lower electricity prices. However, Californians never fully realized these benefits of consumer choice because certain features of deregulation and its implementation kept consumer choice from flourishing. Now, the future of consumer choice is in doubt because the State has become the main purchaser of wholesale electricity for the investor-owned utilities, negotiating long-term contracts with energy generators. The goals of consumer choice may conflict with the State's goal of returning the investor-owned utilities to creditworthy status—because expanding competition at this point might result in the State paying for unneeded power.

We recommended that in assessing the future role of consumer choice, the CPUC should consider the effects of competition at the retail level to evaluate whether it is viable in the current market environment, where the State is the primary purchaser of electricity for the investor-owned utilities.

CPUC Action: Corrective action taken.

On September 20, 2001, the CPUC suspended direct access for all new customers. In February 2001 the Department of Water Resources (DWR) began purchasing electricity on behalf of California's utility customers. By suspending direct access, the CPUC acted to stabilize the electric utility customer base and ensure that the DWR did not purchase more power than was necessary.

